2024 CoastWatch & ATN Training

October 25, 2024 Virtual 10am - 5pm (Pacific Time)

Resources

- Coastwatch Tutorials (on GitHub)
- Coastwatch Lecture series
- Animal telemetry Network

Schedule

Time (PST)	Topic	Presenter
10:00 - 10:15	Training Overview - CoastWatch, ATN and the workshop component	Cara Wilson
10:15 - 10:30	Group Introductions	Cara Wilson
10:30 - 11:15	Coastwatch satellite datasets and data portals	Cara Wilson
11:15 - 11:30	Break	
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1:30 - 2:00	Intro to ATN and the DAC	Megan McKinzie
2:00 - 2:30	Demo of ATN data portal	Megan McKinzie
2:30 - 3:00	Accessing public ATN datasets	Megan McKinzie
3:00 - 3:15	Break	
3:15 - 3:30	Workshop, part 1: Linking CoastWatch and ATN data using scripts	Daisy Shi
3:30 - 4:45	Workshop, part 2: Hand's on time	
4:45 - 5:00	Wrap up and final discussion	All

https://coastwatch-training.github.io/CoastWatch-Workshops/courses/seaice24.html

Introduction to NOAA CoastWatch and ATN Animal Telemetry Data Course

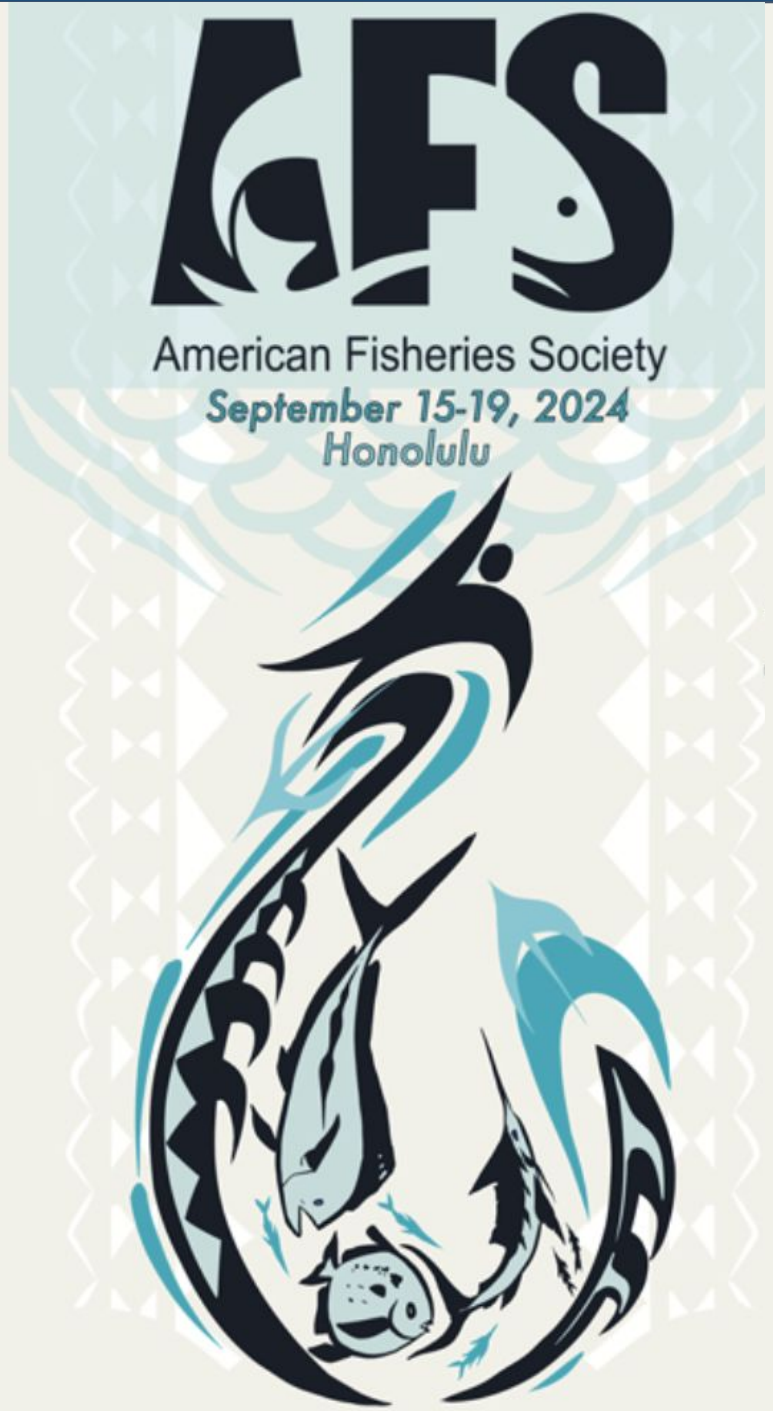
Cara Wilson

NOAA Southwest Fisheries Science Center, Monterey, CA

PI of PolarWatch and West Coast node of CoastWatch

ATN Animal Telemetry Data Course - Oct 25, 2024

coastwatch.info@noaa.gov



Training on accessing Oceanographic Satellite Data from NOAA CoastWatch and using the Animal Telemetry Network Portal

Sat, September 14 | 8:00 AM - 5:00 PM | 303AB Conference Venu | Continuing Education Courses

Description

Satellite and animal tracking data can be sources of important environmental observations for oceanographic applications. However, these data are often underutilized, primarily due to difficulties associated with discovering, accessing and using. In this training session participants will be familiarized with oceanographic satellite data products (sea surface temperature, chlorophyll concentration, sea level, ocean winds, and salinity) and satellite telemetry data. Participants will learn how to use the CoastWatch ERDDAP data server, the Animal portal and other web services to find, visualize, subset and download data. Techniques to match up telemetry data to satellite measurements will be provided. The training session will be a mix of lectures, demonstrations and hands-on tutorials in R, Python and ArcGIS.

Instructors:

- Dan Hui Sh, NOAA CoastWatch/University of Hawaii
- Megan McKi, Monterey Bay Aquarium Research Institute
- Dale Robinso, University of California-Santa Cruz
- Cara Wilson, NOAA Southwest Fisheries Science Center

CANCELLED

Has been rescheduled to be offered (free) as an online course:

Friday October 25, 10am - 5pm PST

https://coastwatch-training.github.io/CoastWatch-Workshops/courses/afs24.html

IOOS | Integrated Ocean Observing System

IOOS DATA VIEWERS DACS REGIONAL ASSOCIATIONS ABOUT

Animal Telemetry Network

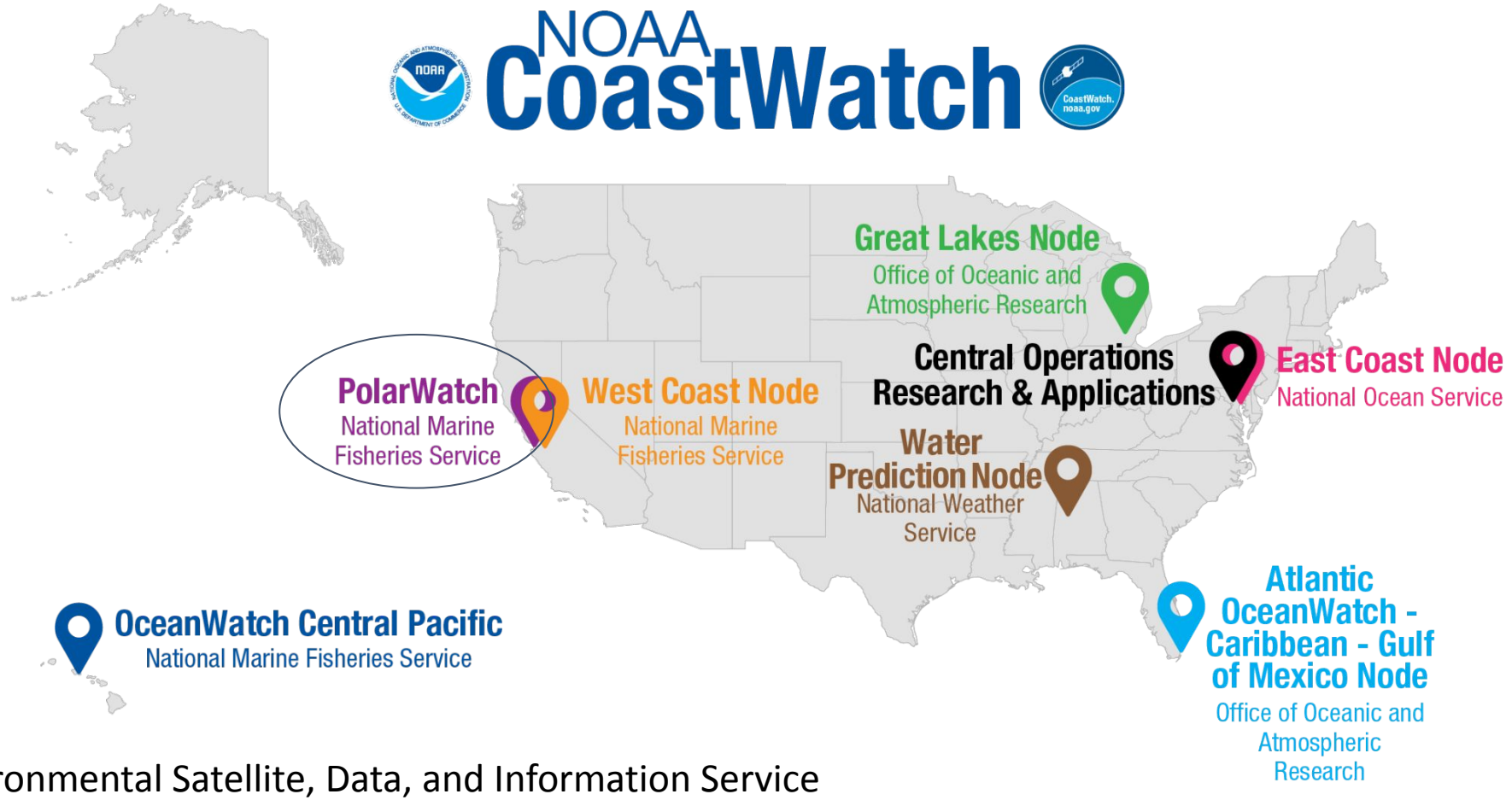
The ATN data management vision includes a regionally distributed data collection, management and sharing capacity that builds on and integrates as many existing data links as possible to enable local and regional needs to be addressed. At the heart of this system is a centralized data assembly center (DAC) currently located at Axiom Data Science. This DAC is a community resource where regional telemetry data is aggregated in a single place and one-stop-shopping is provided for access to all U.S. national animal telemetry data. The DAC both serves national stakeholder needs effectively as well as enables cost/time savings to principal investigators.

Quick Links

Covering ARGOS Fees through the ATN

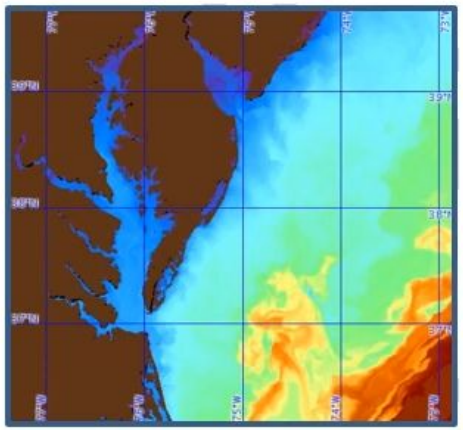
NOAA CoastWatch is a national program funded by NOAA/NESDIS[1]

MISSION: PROVIDE ACCESS TO AND PROMOTE THE USE OF SATELLITE DATA PRODUCTS
for oceanic, freshwater, & polar applications

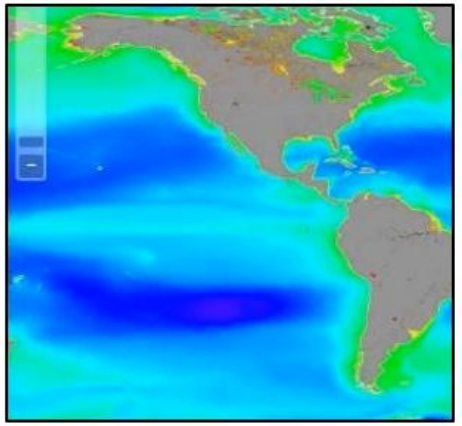


[1]National Environmental Satellite, Data, and Information Service

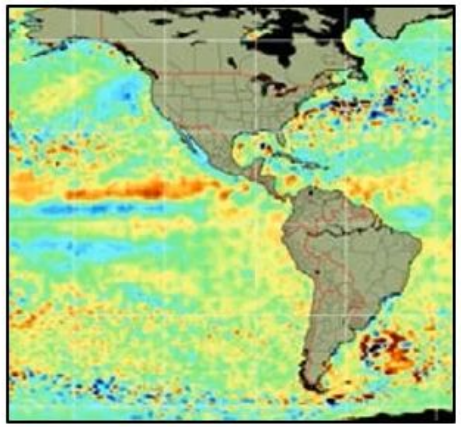
CoastWatch distributes ocean satellite data



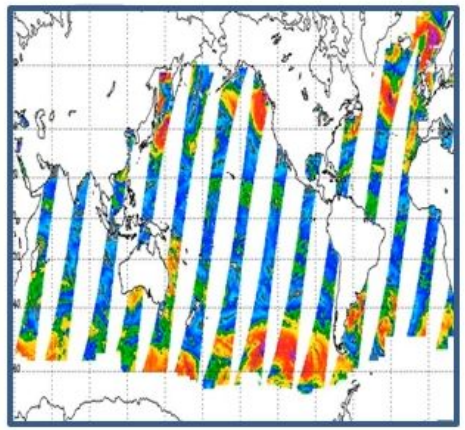
Temperature



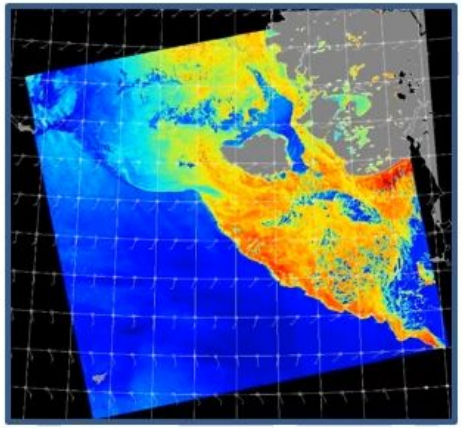
Ocean Color



Altimetry

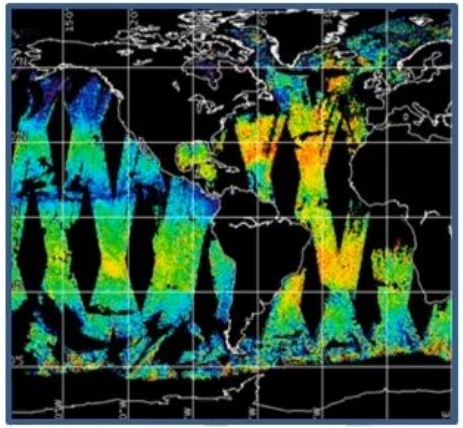


Ocean Vector Winds

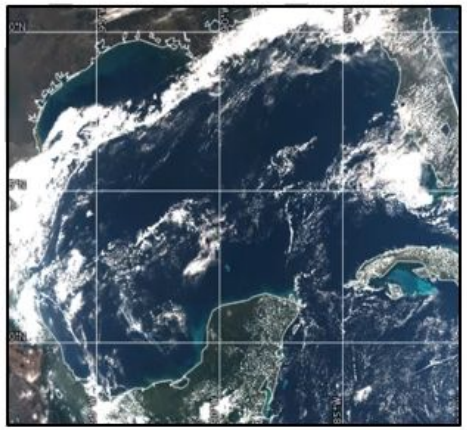


Synthetic Aperture Radar

Sea Ice



Salinity



Imagery

CoastWatch offers several levels of service to help users with satellite data

INCREASING ASSISTANCE TO USER

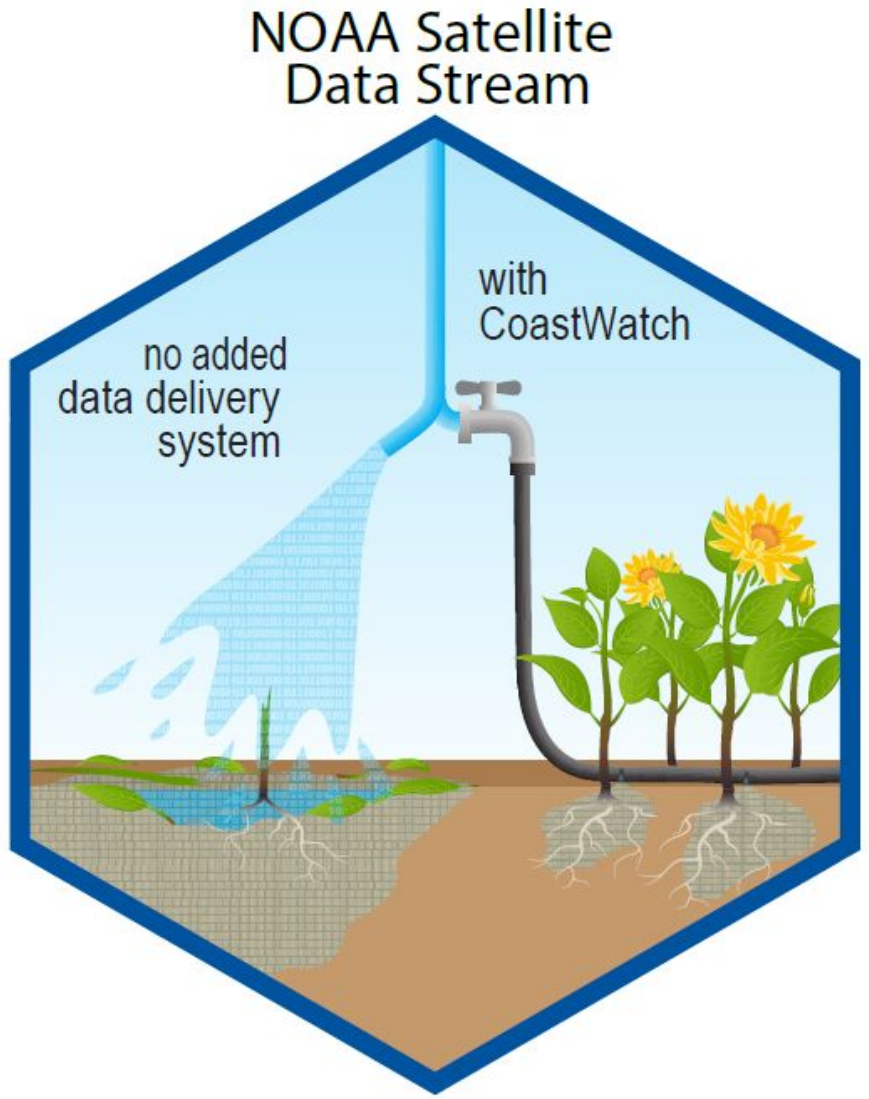
Provide access to datasets with data servers

Develop tools and tutorials to help users interact with the server and use the data

Provide training and hands-on assistance

Find or create products and tools to address users needs

Work directly with users on projects



COASTWATCH IS A VALUE ADDED PROVIDER

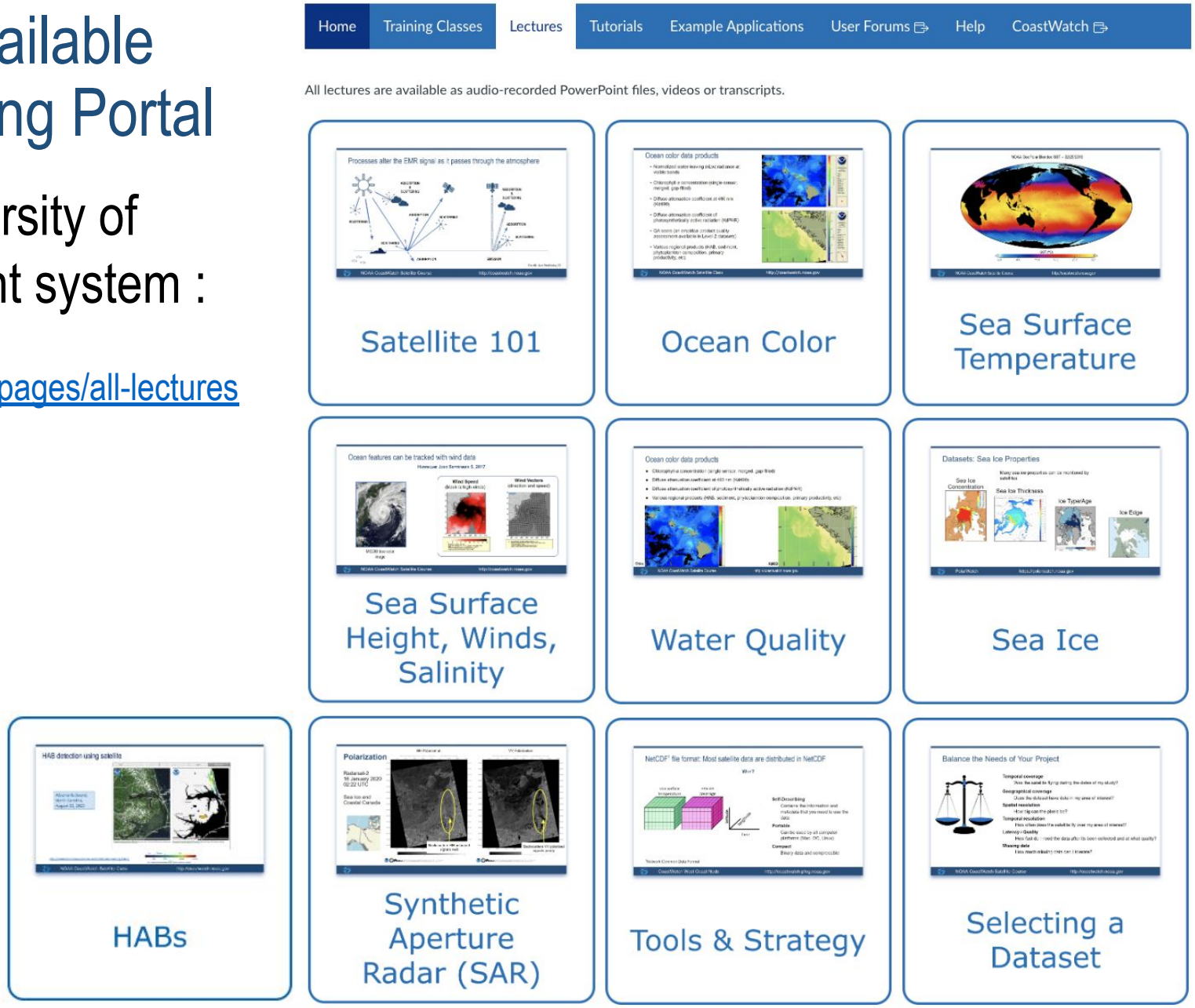
NOAA CoastWatch Resources in a Nutshell

- Easy access to satellite datasets using ERDDAP
- Online (short, ~20 minutes) videos explaining the basics of all the satellite products (SST, ocean color, sea surface height, etc.)
- Code notebooks in R and Python on GitHub to do demonstrate basic data extraction (from ERDDAP) and plotting examples
- Periodic courses offered on understanding and accessing satellite data
- Helpdesk: Coastwatch.info@noaa.gov

Recorded Lectures are Available on the CoastWatch Learning Portal

Presently housed on the University of Maryland learning management system :

https://umd.instructure.com/courses/1336575/pages/all-lectures



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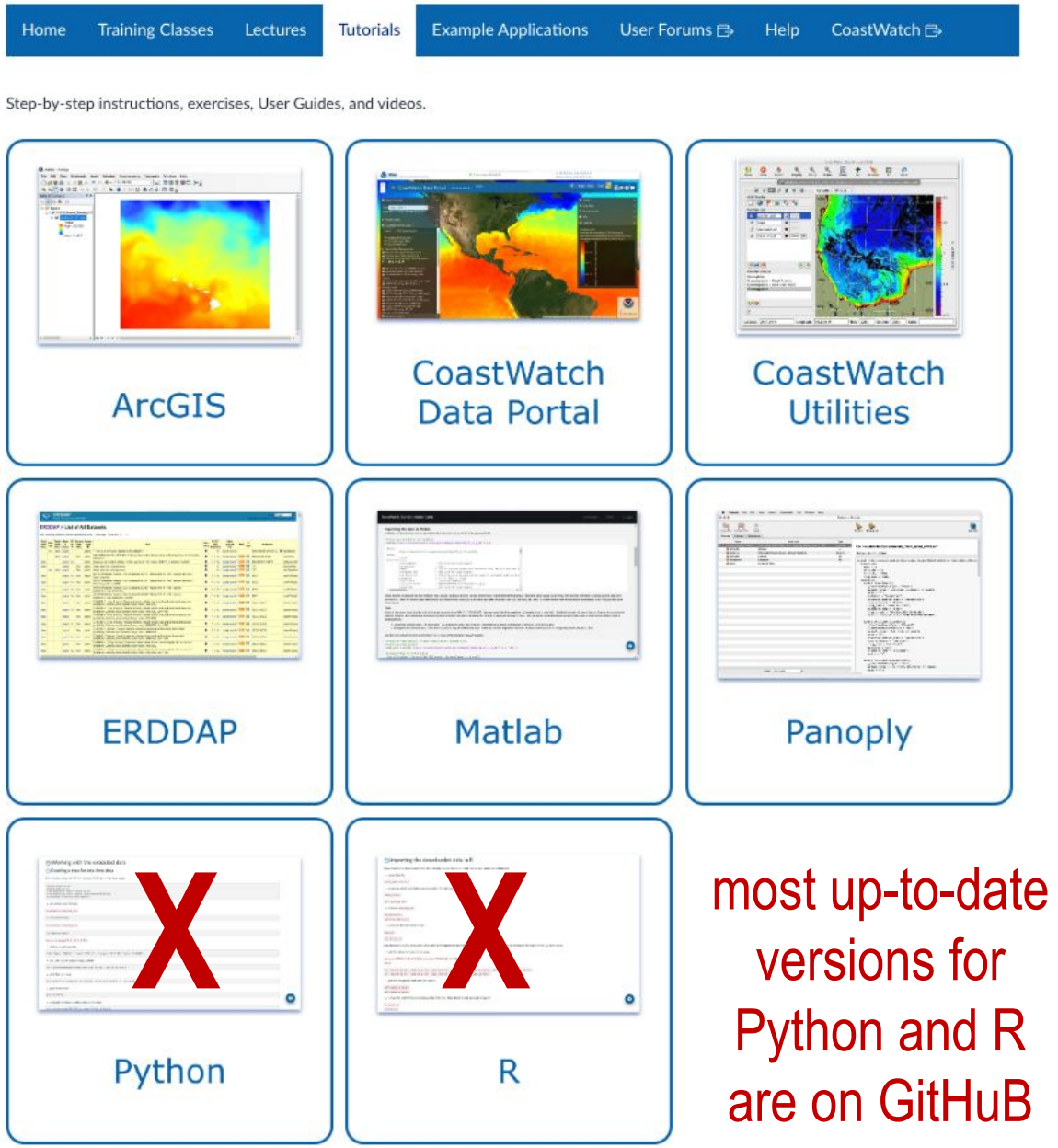
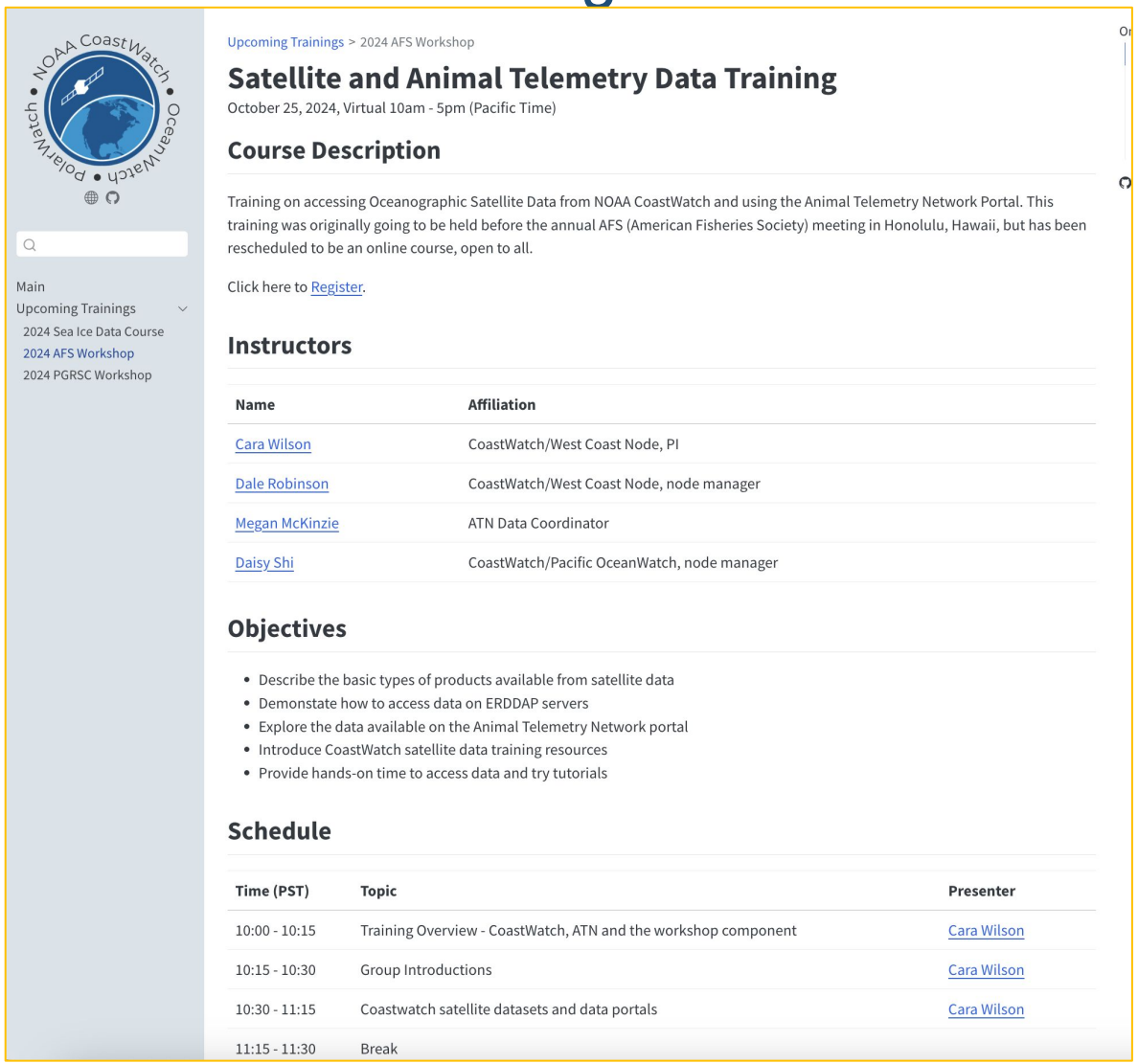


Distribution of CoastWatch Courses is Transitioning to GitHub

Upcoming Trainings:

Oct 25, 2024 - Animal Telemetry
online, 10 am-5 pm PST

Nov 26, 2024 - PGRSC
in person, 1-6 pm Fiji Time



https://coastwatch-training.github.io/CoastWatch-Workshops/

Distribution of CoastWatch Tutorials is Transitioning to GitHub

The R and python code on GitHub are the most up-to-date versions.

Tutorial Module Descriptions

- ERDDAP-basics An introduction to what ERDDAP is and an overview of the different CoastWatch ERDDAP servers. Learn how to visualize and download data from ERDDAP, and how to interpret an ERDDAP url.
- netcdf-and-panoply-tutorial Learn how to use NASA's Panoply software to open and view netCDF data.
- Tutorial1-basics Learn to access satellite data from CoastWatch ERDDAP data server and to work with NetCDF files. Visualize sea surface temperature on a map and plot time series data. R and python versions.
- Tutorial2-timeseries-compare-sensors Learn common ways to download data from ERDDAP servers to access time-series chlorophyll data from four different satellite datasets and summarize and visualize the data for comparison. R and python versions.
- convert-180+180-to-0-360-longitude Work with datasets with -180° to +180° longitude values in a region that crosses the antimeridian. Convert the coordinates from (-180, +180) to (0, 360) and visualize data on a map. Python only.
- create-virtual-buoy-with-satellite-data Create a “virtual” buoy using satellite data to fill the gaps in in-situ data collected by a physical buoy. Extract data from a location close to an existing buoy. Clean dataset by removing outliers, and aggregate (resample) to achieve a reduced temporal resolution. Plot time series data. R and python versions.
- extract-satellite-data-within-boundary Extract sea surface temperature satellite data for an non-rectangular geographical region from an ERDDAP server using a shapefile, make maps, and plot a timeseries of the seasonal cycle of SST within the boundary. R and python versions.
- matchup-satellite-buoy-data Temporally and geospatially subset satellite data to match with buoy data (tabular), run statistical analysis and produce a map of the satellite data with overlaying buoy data. R only.
- matchup-satellite-data-to-track-locations Extract satellite data along a set of points defined by longitude, latitude, and time coordinates like that produced by an animal telemetry tag, a ship track, or a glider track. R and python versions.

https://github.com/coastwatch-training/CoastWatch-Tutorials

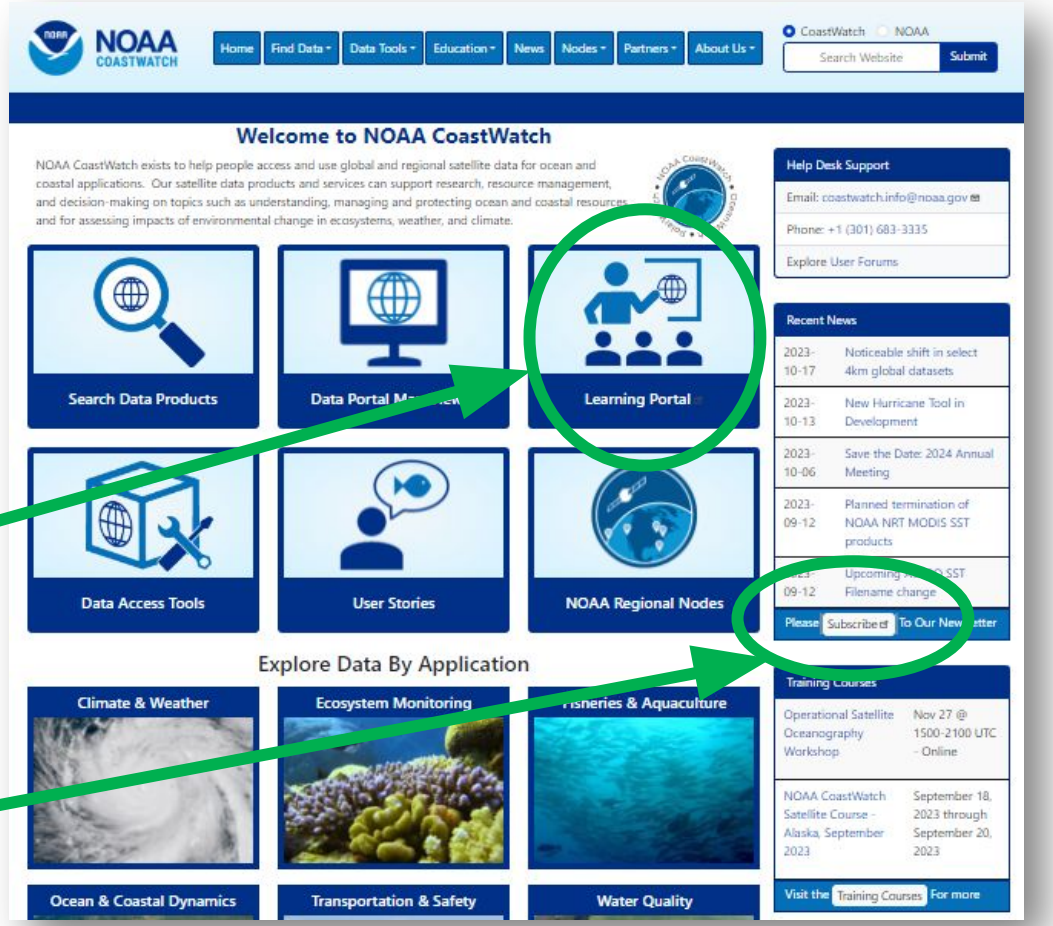
Questions?
Coastwatch.info@noaa.gov

Learning Portal has links to recorded lectures and tutorials

Subscribe to our newsletter for announcements for satellite classes:

subscribe

coastwatch.noaa.gov



We will be using Slido to interact with participants:

Go to www.slido.com

#ATN

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